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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,288	02/10/2004	Shigeo Ted Oyama	1856-43000 (VTIP-03071)	1167
35181	7590	05/15/2006	EXAMINER	
CONOCOPHILIPS COMPANY			HOPKINS, ROBERT A	
P.O. BOX 2443			ART UNIT	
BARTLESVILLE, OK 74004			PAPER NUMBER	

1724

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/775,288

Applicant(s)

OYAMA ET AL.

Examiner

Robert A. Hopkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 13, 14 and 47 is/are rejected.
- 7) ☒ Claim(s) 10-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6-16-05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 15- 46 are cancelled. Election was made **without** traverse in the reply filed on 5-5-06. Applicant's election without traverse of claims 1-14 in the reply filed on 5-5-06 is acknowledged. Claim 47 is added by amendment.

### ***Claim Objections***

Claims 5 and 47 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 5 recites a method of making the permselective membrane, but fails to further limit limitations as to the membrane itself.

Claim 47 recites "wherein the porous, graded particulate layer is formed by dip-coating the support with a series of boehmite sols having decreasing particulate size distributions". Claim 47 recites a method of making the porous , graded particulate layer, but fails to further limit limitations as to the porous , graded particulate layer itself.

### ***Claim Rejections - 35 USC § 112***

Claim 47 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 47 line 2 recites "the support". There is a lack of antecedent basis for "the support" in previous claim limitations.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Abe(4865630).

Abe teaches a permselective membrane assembly comprising a porous , graded particulate layer(column 3 lines 64-68; column 6 lines 3-21). Abe further teaches a porous support(14a in figure 4) and a permselective membrane. Abe further teaches wherein the porous support is alumina(column 3 lines 12-19). Abe further teaches wherein the permselective membrane comprises silica.. Abe further teaches wherein the permselective membrane comprises nanosil. Abe further teaches the permselective membrane has permanence to hydrogen gas(column 7 lines 37-43).

Claims 13 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Abe(4865630).

Abe teaches a method for promoting the yield of a gaseous reaction product by selective permeation using a permselective membrane assembly comprising a porous graded particulate layer(column 3 lines 64-68; column 6 lines 3-21). Abe further teaches wherein the gaseous reaction product is hydrogen.

***Allowable Subject Matter***

Claims 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 10 recites "wherein the porous, graded particulate layer is prepared from a plurality of sols having narrow particle size distribution. Abe teaches in Example 4 a porous support, a first layer of a slurry in the form of molybdenum sulfide, and a second layer of a slurry of boehmite sol. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to substitute a porous, graded particulate layer which is prepared from a plurality of sols having narrow particle size distribution for the single layer of boehmite sol with a layer of molybdenum sulfide because Abe does not suggest such a modification. Claims 11 and 12 depend on claim 10 and hence would also be allowable upon incorporation of claim 10 into claim 1.

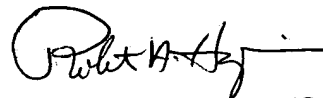
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, every Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rah  
May 9, 2006

  
**ROBERT A. HOPKINS**  
**PRIMA EXAMINER**  
A.U. 1724